WHAT IS CLAIMED IS:

1. A laser working apparatus for effecting optical ablation working by irradiating a work article with laser light from a laser oscillator capable of continuous emission of a light pulse of a large energy density in space and in time, with a pulse emission time not exceeding 1 picosecond;

wherein control means for controlling the irradiation of said laser light is provided in a position not affecting the temperature control of said laser oscillating portion and a configuration is provided for controlling the irradiation of the laser light continuously emitted from said laser oscillator by said control means thereby effecting optical ablation working on the work article.

2. A laser working apparatus according to claim 1, wherein said control means is provided outside the laser oscillator or in a chamber separate from a laser oscillation chamber in the laser oscillator.

3. A laser working apparatus according to claim 1 or 2, wherein said control means is a light intercepting device capable of transmitting or intercepting said laser light, and a configuration is provided for irradiating the work article with a predetermined number of pulses by said light

intercepting device thereby effecting optical ablation working.

4. A laser working apparatus according to claim 3, wherein said light intercepting device is arranged by an electromagnetic mechanical chopper.

5. A laser working apparatus according to claim 3, wherein said light intercepting device is arranged by an electrical liquid crystal shutter.

6. A laser working apparatus according to claim 3, wherein said light intercepting device achieves interception of light by a diffraction effect in an acoustooptical modulator (AOM).

7. A laser working apparatus according to claim 3, wherein said light intercepting device achieves interception of light by a diffraction effect in an electrooptical modulator (EOM).

8. A laser working apparatus according to claim 1, wherein said control means is light intensity attenuating means capable of controlling the attenuation of the intensity of said laser light, and a configuration is provided for irradiating the work article with a predetermined energy density by said

light intensity attenuating means, thereby effecting light ablation working.

9. A laser working apparatus according to claim 8, wherein said light intensity attenuating means is arranged by a variable light attenuator for controlling the intensity of the transmitting light by varying the incident angle of light.

10. A laser working apparatus according to claim 8, wherein said light intensity attenuating means is arranged by a light absorbing filter.

11. A laser working apparatus according to claim 1 or 2, wherein said control means is arranged by a light interception control device capable of repeating the transmission and interception of the transmitting light with a frequency smaller (or a period longer) than that of the consecutive light pulses emitted from said laser oscillator, and a configuration is provided for irradiating the work article with the consecutive light pulses at a predetermined interval by said light interception control device, thereby effecting optical ablation working.

12. A laser working apparatus according to claim 11, wherein said light interception control device is

arranged by a mechanical rotary chopper.

13. A laser working apparatus according to claim 12, wherein the time ratio of transmission and interception of the light by said mechanical rotary chopper is set by the shape of a shielding plate of said mechanical rotary chopper.

14. A laser working apparatus according to claim 11, wherein said light interception control device is arranged by an electromagnetically controlled mechanical shutter.

15. A laser working apparatus according to claim 11, wherein said light interception control device is arranged by an electrical liquid crystal shutter.

16. A laser working apparatus according to claim 11, wherein said light interception control device executes interception of the light utilizing the diffraction effect of an acoustooptical modulator (AOM).

17. A laser working apparatus according to claim 11, wherein said light interception control device executes interception of the light utilizing the diffraction effect of an electrooptical modulator

(EOM).

18. A laser working apparatus according to claim 11, wherein the temperature increase of said light interception control device by the absorption of the laser light is prevented by air cooling means such as an air blower or by liquid cooling means such as a circulating liquid heat exchanger.

19. A laser working apparatus according to claim 11, wherein the laser light reflected by said light interception control device is absorbed by a light absorbing material such as a carbon block.

20. A laser working apparatus according to claim 11, wherein the repeating period of transmission and interception of the light by said light interception control device is controlled by the electrical or mechanical control of said light interception control device by controller means.

21. A laser working apparatus according to claim 20, wherein said controller means is adapted to variably control the repeating period of transmission and interception of the light of said light interception control device, according to the physical properties of the work article and the shape thereof to

be worked, or according to the state of progress of the working.

22. A laser working apparatus according to claim 20, wherein said controller means is adapted to variably control the time ratio of transmission and interception of the light of said light interception control device, according to the physical properties of the work article and the shape thereof to be worked, or according to the state of progress of the working.

23. A laser working apparatus according to claim 1, wherein said laser oscillator is provided with a spatial compression device for light propagation.

24. A laser working apparatus according to claim 23, wherein said spatial compression device for light propagation is arranged by chirping pulse generation means and vertical mode synchronization means utilizing the optical wavelength dispersion characteristics.

25. A laser working method for effecting optical ablation working by irradiating a work article with laser light from a laser oscillator capable of continuous emission of light pulses of a large energy density in space and in time, with a pulse emission time not exceeding 1 picosecond;

wherein control means for controlling the temperature of an area including said laser oscillator is provided outside the temperature control area, on the optical axis of the laser light, for controlling the irradiation of the laser light continuously emitted from said laser oscillator thereby effecting optical ablation working on said work article.

26. A laser working method according to claim 25, wherein said control means is arranged by a light intercepting device capable of transmitting or intercepting the laser light, and said light intercepting device irradiates the work article with a predetermined number of pulses thereby effecting optical ablation working.

27. A laser working method according to claim 25, wherein said control means is arranged by light intensity attenuating means capable of controlling the attenuation of the intensity of said laser light, and said light intensity attenuating means irradiates said work article with a predetermined energy density thereby effecting optical ablation working.

28. A laser working method according to claim 25, wherein said control means is arranged by a light interception control device capable of repeating the

transmission and interception of the transmitting light with a frequency smaller (or a period longer) than that of the consecutive light pulses emitted from said laser oscillator, and said light interception control device irradiates said work article with the consecutive light pulses at a predetermined interval, thereby effecting optical ablation working.

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29. A method for producing an ink jet recording head provided with an ink discharge orifice for discharging an ink droplet to be deposited on a recording medium, a liquid chamber for storing ink to be supplied to said discharge orifice, an ink flow path connecting said discharge orifice and said liquid chamber, an energy generating element provided in a part of said ink flow path and adapted to generate energy for discharging ink, an ink supply aperture for supplying said liquid chamber with the ink from the exterior etc., by working a member constituting at least a part of said ink flow path by a laser working apparatus;

wherein a member constituting at least a part of said ink flow path is sublimatedly worked by using the laser working apparatus according to either one of claims 1, 2, 4 to 10, or 12 to 24 or the laser working method according to either one of claims 25 to 28.

30. A method for producing an ink jet recording head provided with an ink discharge orifice for discharging an ink droplet to be deposited on a recording medium, a liquid chamber for storing ink to be supplied to said discharge orifice, an ink flow path connecting said discharge orifice and said liquid chamber, an energy generating element provided in a part of said ink flow path and adapted to generate energy for discharging ink, an ink supply aperture for supplying said liquid chamber with the ink from the exterior etc., by working a member constituting at least a part of said ink flow path by a laser working apparatus;

wherein a member constituting at least a part of said ink flow path is sublimatedly worked by using the laser working apparatus according to claim 3.

31. A method for producing an ink jet recording head provided with an ink discharge orifice for discharging an ink droplet to be deposited on a recording medium, a liquid chamber for storing ink to be supplied to said discharge orifice, an ink flow path connecting said discharge orifice and said liquid chamber, an energy generating element provided in a part of said ink flow path and adapted to generate energy for discharging ink, an ink supply aperture for supplying said liquid chamber with the ink from the

exterior etc., by working a member constituting at least a part of said ink flow path by a laser working apparatus;

wherein a member constituting at least a part of said ink flow path is sublimatedly worked by using the laser working apparatus according to claim 11.

32. An ink jet recording head provided with an ink discharge orifice for discharging an ink droplet to be deposited on a recording medium, a liquid chamber for storing ink to be supplied to said discharge orifice, an ink flow path connecting said discharge orifice and said liquid chamber, an energy generating element provided in a part of said ink flow path and adapted to generate energy for discharging ink, an ink supply aperture for supplying said liquid chamber with the ink from the exterior etc., in which a member constituting at least a part of said ink flow path is formed by a laser working apparatus;

wherein the ink jet recording head is produced by the producing method according to claim 29.

33. An ink jet recording head provided with an ink discharge orifice for discharging an ink droplet to be deposited on a recording medium, a liquid chamber for storing ink to be supplied to said discharge orifice, an ink flow path connecting said discharge

orifice and said liquid chamber, an energy generating element provided in a part of said ink flow path and adapted to generate energy for discharging ink, an ink supply aperture for supplying said liquid chamber with the ink from the exterior etc., in which a member constituting at least a part of said ink flow path is formed by a laser working apparatus;

wherein the ink jet recording head is produced by the producing method according to claim 30.

34. An ink jet recording head provided with an ink discharge orifice for discharging an ink droplet to be deposited on a recording medium, a liquid chamber for storing ink to be supplied to said discharge orifice, an ink flow path connecting said discharge orifice and said liquid chamber, an energy generating element provided in a part of said ink flow path and adapted to generate energy for discharging ink, an ink supply aperture for supplying said liquid chamber with the ink from the exterior etc., in which a member constituting at least a part of said ink flow path is formed by a laser working apparatus;

wherein the ink jet recording head is produced by the producing method according to claim 31.